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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/687,004

10/16/2003

John Jerald Urlaub

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DORITY & MANNING, P.A.  
POST OFFICE BOX 1449  
GREENVILLE, SC 29602-1449

EXAMINER

AUGHENBAUGH, WALTER

ART UNIT

PAPER NUMBER

1794

MAIL DATE

DELIVERY MODE

04/17/2008

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/687,004	<b>Applicant(s)</b> URLAUB ET AL.	
	<b>Examiner</b> WALTER B. AUGHENBAUGH	<b>Art Unit</b> 1794	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 16 January 2008.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 34-38 and 41-57 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 34-38 and 41-57 is/are rejected.
- 7) ☒ Claim(s) 53 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Acknowledgement of Applicant's Amendments***

1. The amendments made in claims 34, 47 and 48 in the Amendment filed January 16, 2008 have been received and considered by Examiner.
2. New claims 50-57 presented in the Amendment filed January 16, 2008 have been received and considered by Examiner.
3. Applicant's cancellation of claims 39 and 40 in the Amendment filed January 16, 2008 has been acknowledged by Examiner.
4. Applicant's amendments made in the abstract have been received and considered by Examiner.

### ***WITHDRAWN OBJECTIONS***

5. The objections to the specification (abstract) and claim 47 in the previous Office Action have been withdrawn due to Applicant's amendments.

### ***WITHDRAWN REJECTION***

6. The 35 U.S.C. 112 rejection of claim 48 in the previous Office Action has been withdrawn due to Applicant's amendments in claim 48.

### ***REPEATED REJECTIONS***

#### ***Claim Rejections - 35 USC § 103***

7. The 35 U.S.C. 103 rejection of claims 34, 35, 41 and 43-48 has been repeated for the reasons previously made of record, and for the following reason that addresses the amendment made in claim 34 in the Amendment filed January 16, 2008: as stated in the rejection of record in regard to now cancelled claim 40, Hu et al. teach that silica and alumina are both suitable

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materials for the metal modified nanoparticles of Hu et al. (col. 2, lines 9-28), so the package that results from the proposed combination of references comprises nanoparticles that comprise silica or alumina.

The amendments in claims 47 and 48 do not affect the rejection of record.

8. The 35 U.S.C. 103 rejection of claim 42 has been repeated for the reasons previously made of record, taking into account the reason provided above that addresses the amendment made in claim 34 in the Amendment filed January 16, 2008.

#### ***NEW OBJECTION***

##### ***Claim Objections***

9. Claim 53 is objected to because of the following informalities: claim 53 is a duplicate of claim 52. Appropriate correction is required.

#### ***NEW REJECTIONS***

##### ***Claim Rejections - 35 USC § 103***

10. Claims 52-57 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hu et al. (USPN 6,740,406) in view of Elias (USPN Re. 32,957).

Hu et al. and Elias teach the package as discussed in the rejection of claim 34 of record.

In regard to claims 52, 53 and 57, Hu et al. teach that alumina is a suitable material for the metal modified nanoparticles of Hu et al. (col. 2, lines 9-28), so the package that results from the proposed combination of references comprises nanoparticles that comprise alumina (and that consist essentially of alumina).

In further regard to claim 57, Hu et al. teach that silica is a suitable material for the metal modified nanoparticles of Hu et al. (col. 2, lines 9-28), so the package that results from the proposed combination of references comprises nanoparticles that consist essentially of silica.

In regard to claim 54, while Hu et al. and Elias fail to explicitly teach that the nanoparticles are formed from alumina-coated silica, since Hu et al. teach that silica and alumina are both suitable materials for the metal modified nanoparticles of Hu et al. (col. 2, lines 9-28), one of ordinary skill in the art would have recognized to have used alumina-coated silica as the nanoparticles of the package taught by Hu et al. and Elias since silica and alumina are both suitable materials for the metal modified nanoparticles of Hu et al., and since alumina-coated silica.

In regard to claim 55, Hu et al. teach that the metal modified nanoparticles may have a particle size of less than 1 micron (col. 2, lines 29-34), a range that encompasses the claimed range of about 1 to about 100 nanometers.

In regard to claim 56, Elias teaches that the packaging material is sealed (see, for example, col. 8, line 64-col. 9, line 8), so one of ordinary skill in the art would have recognized to have formed the package taught by Hu et al. and Elias such that the packaging material of the package is sealed, since it is well known to seal the packaging material of packages, as taught by Elias.

11. Claims 50 and 51 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hu et al. (USPN 6,740,406) in view of Elias (USPN Re. 32,957) and as evidenced by MacDonald et al. (USPN 7,141,518).

Hu et al. and Elias teach the package as discussed in the rejection of claim 34 of record.

As discussed above in regard to claim 34, Hu et al. teach that silica and alumina are both suitable materials for the metal modified nanoparticles of Hu et al. (col. 2, lines 9-28), so the package that results from the proposed combination of references comprises nanoparticles that comprise silica or alumina. MacDonald et al. discloses that silica nanoparticles have a negative zeta potential (col. 5, lines 13-31 and col. 5, line 63-col. 6, line 8) and that alumina nanoparticles have a positive zeta potential (col. 5, lines 13-31 and col. 6, lines 9-21). Therefore, the nanoparticles have a negative zeta potential in the embodiment where silica is used as the material for the nanoparticle, and the nanoparticles have a positive zeta potential in the embodiment where alumina is used as the material for the nanoparticle, as taught by MacDonald et al.

#### ***Response to Arguments***

12. Applicant's arguments regarding the 35 U.S.C. 103 rejection of claim 34 have been fully considered but are not persuasive.

13. Applicant argues that the nanoparticles of Hu et al. are not metal modified, but the silica or alumina nanoparticles are disclosed as being modified because the silica or alumina nanoparticles, which are described by Hu et al. as the masking agent (col. 2, lines 9-28), are metal modified in the instance where the nanoparticles are extracted as "the salt of various metals, such as iron" (col. 2, lines 23-28). Applicant argues that the activated carbon is not metal activated, but the rejection of record does not rely upon the activated carbon particles as the metal modified nanoparticles. The rejection of record relies upon the nanoparticles (which correspond to the masking agent) as the metal modified nanoparticles. See rejection of record. Since the activated carbon particles of Hu et al. are coated with the masking agent, the

composition of Hu et al. comprises metal modified nanoparticles (the masking agent; see rejection of record). There is no need to modify one masking agent with another masking agent (where the latter is in the form of a salt of a metal) because Hu et al. teach that the inorganic pigments may be extracted in the form of a salt of a metal, so the inorganic pigments such as silica or alumina are disclosed by Hu et al. as being in the form of a salt of a metal (col. 2, lines 17-28).

### ***Conclusion***

14. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Walter B. Aughenbaugh whose telephone number is (571) 272-1488. While the examiner sets his work schedule under the Increased Flexitime Policy, he can normally be reached on Monday-Friday from 8:45am to 5:15pm.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrel Morris, can be reached on (571) 272-1478. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Walter B Aughenbaugh /  
Patent Examiner, Art Unit 1794

4/14/08